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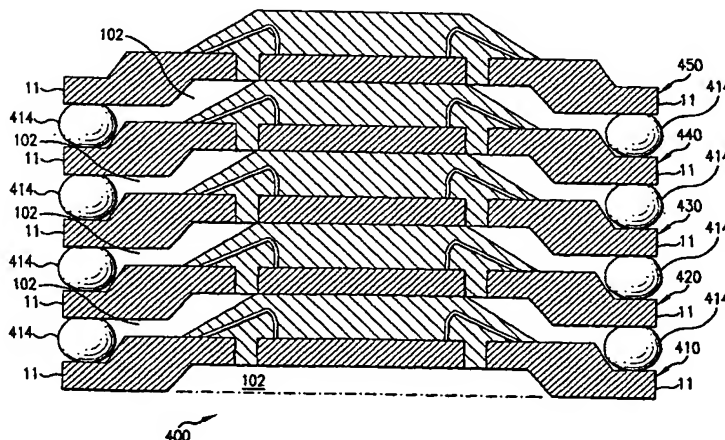
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(54) Title: THIN MULTIPLE SEMICONDUCTOR DIE PACKAGE



(57) Abstract: A method and apparatus for forming a multiple semiconductor die assembly (200, 300, 400) having a thin profile are presented. The semiconductor die assembly (200, 300, 400) comprises a plurality of die packages (100), with each die package (100) including a lead frame (10) having a plurality of leads (11) each having a down set portion (101) extending from a first surface (14). A semiconductor die (30) is disposed in a central region (12) of the lead frame (10) and is electrically connected to the leads (11). An encapsulant (50) is disposed in the central region (12) and covers the semiconductor die (30) and a portion of the leads (11). The first surface (14) of the leads (11) and a first surface (34) of the semiconductor die (30) are substantially coplanar and are exposed from the encapsulant (50). The first surface (34) of the semiconductor die (30) and the down set portions (101) of the leads form a cavity (102). The semiconductor die packages (200, 300, 400) are stacked such that at least a portion of the encapsulant (50) is disposed in the cavity of a next higher semiconductor die package (200, 300, 400) in the stack.

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A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 257/75

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,138,438 A (Masayuki et al.) 11 August 1992 (11.08.1992)	1-18
A	US 4,982,265 A (Watanabe et al.) 01 January 1991 (01.01.1991)	1-18

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☐ See patent family annex.

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